

Vessel Inspection Rulemaking

Evaluation of Probable Benefits and Costs

WAC 332-08-101 to -124

Derelict Vessel Removal Program



March 2014

*Proposed for adoption by the
Board of Natural Resources*



WASHINGTON STATE DEPARTMENT OF
Natural Resources
Peter Goldmark - Commissioner of Public Lands

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1. Background Information and the Rule Proposal

History of the Derelict Vessel Removal Program

The Washington State Department of Natural Resources (DNR) manages the Derelict Vessel Removal Program (DVRP), established by the Washington State Legislature in 2002. DNR contracts for the removal and disposal of derelict and abandoned vessels. DNR provides expertise and assistance to authorized public entities (cities, counties, ports, and state agencies) and reimburses them for costs associated with removing and disposing of derelict or abandoned vessels (up to 200 feet in length). DNR also maintains a statewide inventory of derelict vessels and gives priority ranking for removing vessels that are in danger of breaking up, sinking, or presenting a threat to human health and safety, the environment, or navigation.

This ongoing monitoring and response effort requires continuous funding as vessels age and reach the end of their useful lives. To date, DNR has overseen removal and disposal of more than 500 derelict vessels with funds from the Derelict Vessel Removal Account (DVRA). A portion of recreational boat registration fees and surcharges on the cost of vessel visitor permits have contributed funds to DVRA since 2002. The Legislature has also provided funds from the Aquatic Lands Enhancement Account (source: revenue from state-owned aquatic leases and wild geoduck auctions) and direct state appropriations (sources: Jobs Now Act and Environment Legacy Stewardship Account) since 2002.

The Legislature amended the Derelict Vessel Act (RCW 79.100) several times since 2002 to address emerging management issues, including:

- Designating the action of causing a vessel to become derelict or abandoned is punishable as a misdemeanor (2006).
- Increasing the reimbursement rate for authorized public agencies to 90 percent of eligible costs (2006).
- Adding a temporary \$1 surcharge to recreational boat registration fees (2008-2013) in addition to the \$2 fee collected by Washington Dept. of Licensing (2007).
- Appropriating one-time, \$2 million in funding for the DVRA to fund removal of large vessels and another \$1 million to remove two large dry docks from Lake Washington (2007).
- Expanding public entities' authority to take temporary possession of vessels that pose an imminent threat to human health or safety (2007).
- Creating immunity liability for authorized public entities involved in removal and disposal of derelict and abandoned vessels (2011).
- Appropriating a one-time, \$3 million in funding for DVRA to address the increasing number of derelict and abandoned vessels (2012).
- Continuing the \$1 surcharge to recreational boat registration fees and removed the requirement that these fees be spent on vessels that are less than 75 feet in length (2013).
- Amending the DVRA to remove the \$1 million cap on the account balance (2013).
- Allowing DNR to develop and administer a voluntary vessel turn-in program, budget for which will not exceed \$200,000 in any one biennium (2013).
- Increasing the Washington State Parks Commission (Parks) reimbursement rate to 90% for DVRA-eligible costs (2013).

- Private moorage facility owners may contract with local government for removal and disposal of derelict and abandoned vessels and are not considered the vessel owner for the purposes of cost recovery (2013).
- State and local government agencies must evaluate the condition of their vessels. They may not sell vessels in poor condition and must title and register vessels before selling (2013).
- DNR will reevaluate the criteria for prioritizing vessel removals funded by DVRA, considering proximity to aquaculture operations and other sensitive areas (2013).
- Decriminalizing expired vessel registration to a Class 2 infraction. Part of the monies collected must be credited to the ticketing jurisdiction to support their enforcement program (2013).
- Decisions of local government agencies that don't have an internal appeal process may be appealed to the Pollution Control Hearings Board (PCHB), rather than filing a lawsuit (2013).
- Granting Washington State Department of Ecology (Ecology) or other authorized public entities authority to board vessels after applying for and obtaining an administrative search warrant (2013).
- Directing DNR to convene a work group to evaluate: improving vessel owner responsibility. economic costs of vessel removal. and barriers to vessel disposal (2013).
- Requiring owners of vessels 40 years or older and 65 feet or longer to conduct an inspection prior to sale and provide inspection documentation to the buyer and DNR before transferring ownership. Noncompliance will result in potential secondary liability for the former owner if the vessel becomes derelict or abandoned in the future. DNR must conduct rulemaking to establish inspection criteria and an administrative process (2013).
- **Extending the DNR rulemaking timeframe to December 31, 2014 (2014).**
- Requiring purchasers of vessels 40 years or older and 65 feet or longer to secure marine insurance or risk being charged with a misdemeanor (2014).
- Requiring sellers of vessels 40 years or older and 65 feet or longer have an affirmative duty to ensure potential transferee has secured marine insurance or risk being charged with secondary liability for the vessel if it is later abandoned or becomes derelict (2014).
- Specifying certain conditions under which sellers may transfer ownership of unseaworthy vessels (2014).
- Requiring proof of insurance as a condition of moorage in marinas (2014).
- Adding vessels taken into custody under DVRP are defined as 'transient vessels' (2014).
- Establishing a new derelict vessel removal annual fee for commercial vessels of \$1 per foot to be deposited in the Derelict Vessel Removal Account (2014).

Legal Requirements

DNR is proposing to adopt, by rule, procedures and standards for vessel inspections, as required under Section 38 of the 2013 State Legislature's Engrossed Second House Bill 1245 (codified as RCW 79.100.150).

79.100.150

Transfer of certain vessels — Inspection required — Secondary liability. (Effective July 1, 2014.)

(1) A vessel owner must obtain a vessel inspection under this section prior to transferring a vessel that is:

- (a) More than sixty-five feet in length and more than forty years old; and*
- (b) Either:*
 - (i) Is registered or required to be registered under chapter 88.02 RCW; or*
 - (ii) Is listed or required to be listed under chapter 84.40 RCW.*

(2) Where required under subsection (1) of this section, a vessel owner must provide a copy of the vessel inspection documentation to the transferee and, if the department did not conduct the inspection, to the department prior to the transfer.

(3) Failure to comply with the requirements of subsections (1) and (2) of this section will result in the transferor having secondary liability under RCW 79.100.060 if the vessel is later abandoned by the transferee or becomes derelict prior to a subsequent ownership transfer.

[2013 c 291 § 38.]

Notes:

Effective date -- 2013 c 291 § 38: 'Section 38 of this act takes effect July 1, 2014.'
[2013 c 29 § 48.]

Proposed Rule

This proposed rule recognizes that current best business practices include pre-purchase vessel inspections. Typically, the prospective buyer considering a specific vessel for purchase hires a professional marine surveyor to prepare a pre-purchase vessel inspection, including documenting any needed maintenance and repairs. Inspection costs vary widely depending on the size and type of vessel under consideration and the extent of inspection conducted.

This proposed rule would establish an administrative process for DNR to seek financial recovery of vessel removal and disposal costs, effective July 1, 2014. When current registered owners of a removed derelict or abandoned vessel cannot be identified or held financially accountable, DNR is directed to determine whether the prior registered owner provided a vessel inspection report to the current owner and to DNR. DNR may seek secondary liability for vessel removal and disposal costs if the prior registered owner did not provide the necessary inspection documentation.

This proposed rule is drafted to achieve the following goals:

- Provide the transferee with current information about the condition of the vessel, prior to the transfer.
- Provide DNR with information for each applicable vessel and, more broadly, to improve the department's understanding of the condition of the larger, older boats in the State's waters.
- Discourage the future abandonment or dereliction of vessels.

This rule would not apply to vessel owners from out of state and out of country who sell to in-state buyers. Buyers would be able to register vessels purchased from another state in Washington state without the outside seller being required to provide a vessel inspection report to the buyer and DNR. This rule also wouldn't apply to vessels from out of state and out of country that transit through or moor in Washington state waters. Similarly, Washington state-registered vessels could be sold outside of the state without the seller providing DNR the vessel inspection and associated documentation.

Alternative Versions of the Proposed Rule

There are no non-rule alternatives to the proposed rule. By statute (RCW 79.100.150), the 2013 Legislature directed DNR to adopt a rule. Alternative versions of the proposed rule were considered based on DNR's management capacity, feasibility of implementing the rule, and how best to optimize the resulting public benefits. Appendix I describes three alternatives based on the specific directive of the statute and interpretation of the law. Alternative I is the preferred alternative and is considered the least burdensome alternative in this analysis.

2. The Washington Administrative Procedure Act

The Washington Administrative Procedures Act requires that significant legislative rules be evaluated to determine that the probable benefits of the proposed rulemaking action exceed the probable costs, taking into account both quantitative and qualitative information and analysis. This determination must be prepared prior to the final rule adoption, is considered as part of the final rule adoption, and included in the record of decision. This document fulfills the legal requirements and provides the analysis for the rulemaking proposal.

Identify Affected Entities and the Impacts of the Proposed Rule

The following entities are affected or potentially affected by the proposed rule:

Owners/sellers of commercial and recreational vessels (65 feet or longer and 40 years or older): For most owners, the primary impact is the nominal, additional time and effort to secure a notarized signature from the prospective buyer attesting that they received a copy of the vessel inspection and to provide a copy of the inspection and notarized signature form to DNR before transferring vessel ownership. In almost all cases, the prospective buyers contract a pre-purchase inspection as part of negotiating the purchase price, financing, and insurance purposes.

In cases where a prospective buyer did not have an inspection done, or where the inspection doesn't meet the standards of the proposed rule, the seller must obtain a vessel inspection. These are the cases that the proposed rule is targeting. The majority of resulting costs of implementing the proposed rule will likely be paid by the sellers of those vessels at higher risk of dereliction because of the associated inspection costs. The owner/seller and prospective buyer may factor the additional cost of the vessel inspection into the negotiated purchase price of the vessel.

DNR is the lead entity required to comply with and administer the proposed rule. The two primary impacts to DNR would be:

Implementation cost: Implementation costs include informing applicable boat owners of the inspection requirements, processing and maintaining archival records of vessel inspection documentation, and

researching associated inspection documentation to determine secondary liability when seeking cost recovery for derelict and abandoned vessels.

Cost recovery: In those cases where the current owner of a vessel cannot be identified or held financially responsible for the cost of vessel removal and disposal, DNR will be required to pursue cost recovery from the prior vessel owner if they did not provide the vessel inspection and supporting documentation to DNR before transferring ownership.

Small Business Economic Impact Statement

The Regulatory Fairness Act (Chapter 19.85 RCW) requires state agencies to prepare a Small Business Economic Impact Statement (SBEIS) for proposed rules that affect more than 20 percent of all industries or more than 10 percent of any single industry.

‘Small business’ means any business entity, including a sole proprietorship, corporation, partnerships, or other legal entity that is owned and operated independently from all other businesses, that has the purpose of making a profit, and that has fifty or fewer employees. (RCW 19.95.020(3)) An SBEIS is required if the proposed rule will impose more than minor costs on business in an industry. This SBEIS requirement can be fulfilled by either performing a separate SBEIS or including it in the probably cost benefit analysis of the proposed rule.

Direct costs associated with implementation of the proposed rule are minimal. Vessel inspections by either the buyer or seller are considered normal business transaction costs as part of negotiating a sale price, so the rule would not change buyer or seller behavior in most cases. There would be a small subset of cases where the inspection would be a new, additional cost. However, because this would be a small subset, it is expected that the impact on small businesses overall would be minimal. There also may be minor costs associated with transmitting inspection documentation if a small business proposes to sell a vessel that is 40 years or older and 65 feet or longer. Overall, the impact on small businesses of implementing the rule would be minimal, and the rulemaking does not require development of a formal SBEIS.

Study, Design, Data, and Methods

Economics of Vessel Inspection Reporting

The proposed rule includes vessel inspection standards and an administrative process for providing documentation to the prospective buyer/transferee and DNR. The cost-benefit analysis compares benefits with costs of reporting the required vessel inspections. The analysis determines whether the probable benefits to Washington state exceed the probable costs to the vessel owners/transferees and the administrative costs to the state. Appendix II contains the basis and reasoning for assessing the benefits of the vessel inspection reporting process.

Data and Methods

Two types of studies may apply to preparing this cost-benefit analysis: a case study or an overall market research approach. A case study approach is appropriate when the specific vessel inspection costs are known. Because of the range of vessel construction types, purposes or service types, and vessel sizes covered by this rule, inspection costs are vessel-specific and can vary widely. A market research approach is more appropriate in identifying the benefits of the proposed vessel inspection reporting rule. The methodology for assessing benefits of the proposed rule is described in Appendix III. Data sources are listed in Appendix VI.

In this analysis, it is assumed that the number of vessel ownership transactions per fleet size in the future will remain relatively stable. It is assumed that the cost of pre-purchase vessel inspections will not

substantially increase over time in proportion to the overall market value or sales price of vessels. It is also assumed that vessel inspection requirements will not serve as a deterrent to future vessel ownership transactions. Although some prospective buyers may back out of a purchase after being shown an inspection report, it is assumed that the seller would eventually find a buyer.

3. Assessing Probable Benefits and Costs

Assessing Benefits

Benefits of the rule include ‘avoided costs’ to the Derelict Vessel Removal Program (DVRP). The Program would reduce total financial costs by preventing emergency response situations of derelict vessels sinking when DVRP has copies of the vessel survey on hand to assess the vessel condition and can respond more quickly to dispose of problem vessels. The rule would provide DNR the ability to pursue financial reimbursement by charging prior owners with secondary liability for vessel disposal costs. The rule would provide the additional benefit of encouraging vessel owners to dispose of the vessel, rather than incurring the additional cost of a survey as part of selling the vessel, when the vessel’s value is nominal or less than the cost of the survey.

The financial costs of removing and disposing of derelict vessels do not reflect the true cost of a vessel sinking. For instance, in 2013 the ‘Deep Sea’ vessel disposal cost DVRP over \$1 million in direct salvage and clean-up costs. There were likely additional costs of environmental resource damage not accounted for. Therefore, any amount reimbursed to DVRP is unlikely to fully compensate the public for the damage done by a sinking or derelict vessel.

Buyer behavior may be affected by having greater knowledge of the vessel’s condition based on the inspection report. Prospective buyers may:

- Back out of the purchase.
- Follow through with the purchase and be prepared for the extra maintenance or refurbishment costs.
- Disregard the report and continue with the purchase as they would otherwise.

Sellers may:

- Purchase a vessel inspection and provide the report to an amenable buyer;
- Properly dispose of the vessel by removing it from the water;
- Disregard the rule requiring a vessel inspection report, sell without providing an inspection report, and risk potential secondary liability.
- Abandon the vessel on the water.

Given the condition of the vessels this proposed rule is targeting— vessels on the verge of dereliction or of sinking—there is limited practical evidence that buyers will be more financially prepared for the extra maintenance and refurbishment costs, even with the benefit of an inspection report in hand. Some buyers may realize the cost of the vessel’s maintenance or refurbishment will be more than the vessel is worth and either negotiate a lower sale price or back out of the purchase. While several transaction scenarios are possible, the likely outcome of this rule would produce more cautious sellers and better-informed buyers.

Once a seller finds a buyer willing to purchase a vessel after receiving the report, the seller would be absolved of further financial responsibility by complying with the law and rule. The buyer would be informed of the vessel condition and the financial responsibility they would assume. If the buyer were to

act as if the report did not exist, there would be no benefit to DNR (there would be no difference from the base case).

It is possible that the seller would roll the cost of the inspection into the selling price of the vessel, possibly making it less likely to be sold if considered too expensive for the market or less profitable to the seller if sold. However, if the cost of vessel disposal is high, the seller may choose to absorb the inspection cost to avoid the greater cost of properly disposing of the vessel, and sell the vessel anyway. If the seller absorbs the cost of the inspection and sells the vessel at a loss, they would avoid liability to reimburse DNR for the eventual vessel removal and disposal costs. Either way, the costs to DNR will remain the same.

Sellers willing to disregard the rule and risk secondary liability are likely those sellers with little to lose financially, those who are unable to afford or absorb the costs of the inspection and wait for a willing, fully-informed buyer. Again, these sellers may not be financially able to maintain a vessel if they were to retain ownership, nor would they likely be able to reimburse DNR for the future costs of derelict vessel removal and disposal.

On balance, there will likely be limited benefits as a result of this rule that only partially provide owners incentives to properly dispose of and/or deconstruct vessels before they become derelict. It is difficult to characterize a realistic mechanism for how implementation of the rule would reverse the eventual path of a vessel bound for dereliction at the end of its useful life. With few exceptions, the rule would either:

1. Produce more cautious, responsible sellers and better informed, financially prepared buyers;
2. Create an incentive to keep the vessel in the hands of those who do not want to own or maintain it or may be financially unable to properly dispose of and/or deconstruct it; or,
3. Put the vessel in the hands of buyers who equally may be unwilling or financially unable to maintain the vessel properly.

Other Benefits

Prospective buyers would receive a benefit from improved information about the condition of the vessel. This benefit is difficult to quantify because, assuming a rational actor model of behavior, if a buyer wanted an inspection, then they would purchase one—which is typical business practice in almost all cases. If the buyer was not getting the inspection, then they likely had done their own internal cost-benefit analysis and decided the costs outweighed the benefits.

A bounded-rational actor model of behavior suggests that there are some inexperienced buyers or entrepreneurs that may not seek all of the relevant information about a vessel purchase because they do not know what they need to know. These uninformed buyers are most likely to benefit from the rule because it will ensure that they have relevant information that may have a net benefit relative to the costs for them.

Another benefit of the rule would be for DNR to have specific vessel inspection information on hand if the vessel must be disposed of. Holding this information may help DNR expedite and reduce costs for necessary vessel removal and disposal actions. Most important, the report would signal a transfer in ownership and likely change of moorage locations. DNR would be alerted in a timely manner to more closely monitor the disposition of these potential, high-risk vessels. Over time, DNR could develop more cost-effective response strategies. If DNR were able to prevent even one large vessel from sinking, the avoided costs could be in the millions of dollars.

These potential risk-reducing benefits have not been integrated into the model because they are difficult to quantify, have limited supporting data, and are likely to be highly variable compared to the other

quantities modeled. As a result, while these more qualitative benefits are considered important in addressing derelict vessels, they have not been specifically factored into the outcome of this analysis.

Assessing Costs

The proposed rule would impose costs associated with the pre-purchase vessel inspections on vessel owners. In this analysis, the inspection costs considered are only those costs that would not have occurred without the rule—i.e., the additional inspections. However, the cost of administering the proposed rule would include inspections for all transactions of vessels longer than 65 feet or longer and 40 years or older, not just the additional inspections. This is because all transactions involving responsible buyers and sellers, those buyers who would have obtained a pre-purchase inspection without the rule, now have an additional minor cost to the sellers of submitting the inspection report to DNR (or, in limited cases, sellers purchasing an inspection when buyers don't) and an additional minor cost to DNR of recording and archiving all of the inspection reports received.

Cost Drivers and Allocation Factors

Cost Drivers

As manager of the Derelict Vessel Removal Program (DVRP), DNR incurs costs associated with removing and disposing of derelict and abandoned vessels in Washington State waters. Based on the Program's experience, these removal and disposal costs are proportionately higher for larger and older vessels. Vessel owners and DNR both encounter more difficulty and greater expense when removing and disposing of larger, older vessels because of the vessel's uncertain structural configuration and condition. With the rule in place, DNR would be better prepared to more quickly respond to derelict or abandoned vessels if the department had an archived inspection for the particular vessel on record. In addition, DNR may develop more cost-effective response strategies to large vessel removal and disposal over time, based on cumulative evaluation of vessel inspections.

Cost Allocation Factors

This analysis considers the costs of the proposed rule to the vessel owner required to provide vessel inspection documentation to the prospective buyer and DNR. Under the proposed rule, in those limited instances where the buyer doesn't obtain a vessel inspection, the seller would be required to contract for an inspection. Marine surveyors' fees for conducting vessel inspections reflect the complexity of the vessel and are a fixed cost unrelated to the current market value of the vessel.

- Dollar value of the vessel in relation to the cost of the pre-purchase vessel inspection (% of inspection cost to total sale price).
- Size of the vessel and potential cost of removal and disposal (exponential or linear increase in proportional cost).
- Number of vessels sold whose owners provided inspections to the buyer and DNR (% of total sold).

The following four tables provide values and context for the variables in the model.

The first table shows all the Monte Carlo modelled variables, plus the average, minimum, and maximum for those variables that are with constant values across the different vessel lengths.

Table 1: Monte Carlo¹ Simulated Values in the DVRP Cost / Benefit Analysis

Variable	Description	Mean	Max	Min
Reimbursement rate	Percentage of DVRP costs that are reimbursed by vessel owners. The standard deviation of this variable is increased in the rule case simulation to allow for the possibility of increased reimbursements.	1%	7%	0%
Transaction rate	Percentage of fleet (by length) that change ownership each year.	7%	15%	1%
Uninformed buyers	Percentage of transactions undertaken by uninformed buyers that would be additional survey costs due to the rule.	10%	15%	0%
Dereliction rate	Percentage of fleet (by length) that becomes derelict each year. Values based on historical averages (see table 2)			
Inspection fees per vessel	Inspection fees per vessel. These are based on interviews with haul-out and drydock providers and marine surveyors. The inspection fees vary based on vessel length (see table 2).			
Cost per derelict vessel	Cost to DVRP of removing and disposing of derelict vessels. These costs are also based on historical averages and vary by vessel length.			

The second table provides the *average* values for all the base variables in the model, as well as the derived average values for several important variables – for instance, the number of new inspections.

Table 2: Average Variable Model Values by Length for 2014

Variable	61'-70'	71'-80'	81'-90'	91'-100'	101'-200'
Dereliction rate	0.25%	0.06%	0.14%	0.22%	0.22%
Inspection fees per vessel	\$4,644	\$5,203	\$8,766	\$13,763	\$19,300
Cost per derelict vessel	\$40,228	\$53,042	\$69,937	\$92,214	\$733,597
Fleet total in 2014	328	142	69	83	367
Number of transactions (transaction rate x fleet)	22.96	9.94	4.83	5.81	25.69
Number of new inspections (# transactions x uninformed buyers)	2.30	0.99	0.48	0.58	2.57
Inspection costs per year (number of inspections x inspection fees per vessel)	\$10,663	\$5,172	\$4,234	\$7,996	\$49,582

¹ Monte Carlo simulation is a method of analysis based on creating an artificial random or chance process, running it many times, and observing the result.

Variable	61'-70'	71'-80'	81'-90'	91'-100'	101'-200'
Number of derelict vessels (dereliction rate x fleet size)	0.82	0.09	0.10	0.18	0.82
Cost of derelict vessels (number of derelict vessels x cost per derelict vessel)	\$32,914	\$4,822	\$6,756	\$16,766	\$600,216
Expected DVRP cost reimbursement	\$329	\$48	\$68	\$168	\$6,002

The third table shows a comparison of the average values used for the cost of vessel removal compared to the average historical costs by vessel length. DNR used a semi-log regression on the historical values because it produces a reasonably good fit to the data and it has a good theoretical basis (i.e., it's reasonable to expect that the cost of removing the derelict vessel varies proportionately as the length of the vessel increases linearly).

Table 3: DVRP Disposal Costs per Vessel Length – Averages and Semi-Log Regression Forecast

Length	Average	Semi-log Forecast
61' – 70' (65'+)	\$47,272	\$40,228
71' – 80'	\$110,283	\$53,042
81' – 90'	NA	\$69,937
91' – 100'	\$92,069	\$92,214
101' – 200'	\$853,199	\$733,597

The fourth table shows a comparison of average, maximum, and minimum haulout and drydock fees by vessel length, plus base marine surveyor inspection fees.

Table 4: Vessel Inspection Costs per Vessel Length

Haul Out and Drydock Fees	61' – 70' (65'+)	71' – 80'	81' – 90'	91' – 100'	101' – 200'
Average	\$3,864	\$4,303	\$7,746	\$12,623	\$17,500
Maximum	\$5,153	\$5,738	\$9,682	\$15,779	\$20,000
Minimum	\$2,576	\$2,869	\$5,809	\$9,467	\$15,000
Plus base inspection fees (at \$12/ft.)	\$780	\$900	\$1,020	\$1,140	\$1,800

Impacts on Tribes

Tribes manage registration of tribal members' commercial and recreational vessels separate from Washington State government regulations. Vessels owned by tribal members and sold to other tribal members are not covered by the proposed rule. Vessels sold to non-tribal members would be covered by the proposed rule.

Potential unintended outcomes

There are a couple of important possible unintended consequences of this rule. First, if a vessel owner who wishes to sell their vessel can't find a willing buyer with the pre-sales inspection, the seller may decide to abandon the vessel. This action would have potentially large, adverse environmental impacts. The rule may make this outcome slightly more likely for certain owners who are operating on a thin financial margin and who may be unable to bear the cost of the inspection. They may not even be able to sell the vessel to a salvager in an effort to minimize their losses.

Another potential consequence of the rule would be distributional. It may incidentally increase revenues to marine surveyor companies. This is unlikely to be a significant effect, given the assumption that most vessel transactions are currently accompanied by an inspection anyway. It may cause some minor market distortions.

4. Evaluation

RCW 34.05.328 requires that alternatives to adopting the proposed rule be evaluated considering two criteria:

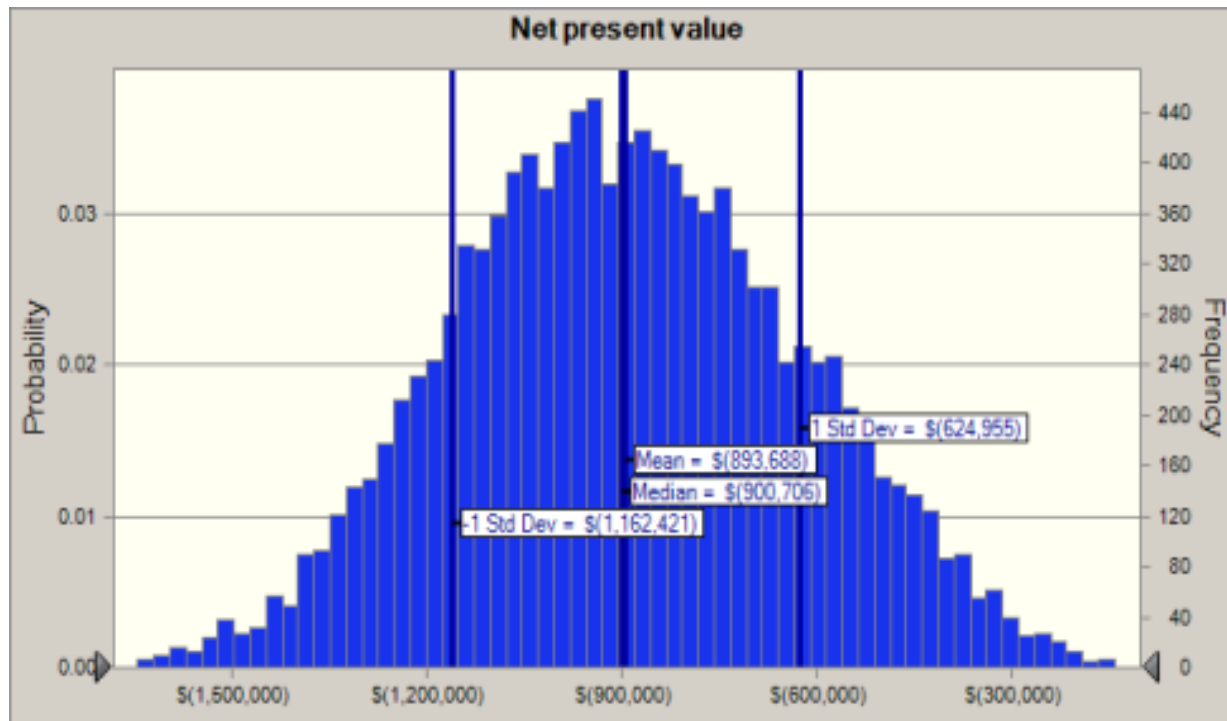
The probable benefits of the proposed rule must outweigh the probable costs. DNR evaluated the probable benefits and costs of the proposed rule by considering both qualitative and quantitative benefits and costs and the specific directives of RCW 79.100.150 being implemented. By adopting this rule and reducing qualitative risks, it is assumed the DVRP could prevent the sinking of even one large derelict vessel in the next 10 years. By having access to a vessel inspection report on file, the program could respond more quickly and avoid substantial disposal costs – potentially running into the millions of dollars. Unfortunately, this analysis found it is difficult to fully quantify these positive probable net benefits.

The rule proposed to be adopted is the least burdensome alternative for those vessel owners who are required to comply with the proposed rule. DNR evaluated the alternative versions of the proposed rule that would have provided a higher level of DNR oversight and quality assurance on the vessel inspection process. The proposed rule accepts buyer-obtained surveys and results in the least expense and duplication of effort for the seller, and is the least time-consuming for the overall vessel transaction process between seller and buyer.

Net present value and cost-benefit ratio

The mean net present value estimated for this rule over 10 years is a cost of \$893,000, and the mean cost-benefit ratio is 0.04. This means that the estimated costs of this rule would outweigh the quantified benefits, although qualitative and risk-reducing benefits are not fully factored in this analysis. Figure 1 shows the probability distribution of the net present value.

Figure 1: Probability Distribution of Net Present Value



5. Preliminary Conclusions

Based on this analysis and evaluation, DNR draws the following preliminary conclusions about the proposed rule:

- There is no alternative rule that complies with RCW 79.100.150 that would have a high probability of a positive net benefit.
- The proposed rule is the least burdensome alternative that complies with RCW 79.100.150.
- The rule does not have a significant adverse impact on small businesses, and a small business economic impact statement (SBEIS) is not required.

APPENDIX I: Alternative Versions of the Proposed Rule

Alternative versions of the rule are considered to be based on compliance with the law, feasibility of implementation, and maximizing public benefits. The vessel inspection criteria and documentation process must meet the minimum requirements established in RCW 79.100.150. Three alternatives of the proposed rule were considered, and Alternative 1 is the preferred version.

Alternative / Interpretation 1: (*preferred version*) Vessel owner/seller would provide DNR a copy of the vessel inspection with a DNR-developed transmittal form that would include the original, notarized signatures of the owner/seller and buyer, attesting that the buyer received a copy of the vessel inspection. The inspection could be obtained by either the buyer or owner/seller. The owner/seller would be responsible for ensuring the inspection meets the minimum requirements of the WAC. The buyer would be responsible for accepting the adequacy of the inspection by agreeing to sign the DNR-developed transmittal form. DNR would provide both the owner/seller and buyer form letters acknowledging receipt of the inspection without evaluating or verifying whether the inspection meets the minimum requirements. The buyer could respond to DNR if they had not received the inspection report referenced in the DNR letter. DNR would retain the inspection documentation for future reference. This alternative defers to the willing buyer in accepting the condition of the vessel. This alternative satisfies the intent of RCW 79.100.150, while representing the lowest cost and least time-consuming process for the vessel owner/seller, the prospective buyer, and DNR.

Alternative / Interpretation 2: (*minimum compliance with RCW 79.100.150*) Vessel owners/sellers would provide DNR copies of the vessel inspection with a cover letter that includes the name of the buyer. The inspection could be obtained by either the buyer or owner/seller. The owner/seller would be responsible for ensuring the inspection meets the minimum requirements of the WAC. DNR would not provide the vessel owner/seller an acknowledgement of receipt. DNR would retain documentation for future reference. This alternative is the least expensive and least time-consuming for the vessel owner and DNR. However, it doesn't provide DNR positive documentation that the buyer received a copy of the vessel inspection. It also doesn't provide the vessel owner acknowledgement that they provided DNR a copy of the vessel inspection.

Alternative / Interpretation 3: (*maximum compliance with RCW 79.100.150*) Vessel owners would contact DNR before transferring ownership and would apply for an inspection of the vessel. A buyer-obtained vessel inspection would not meet the minimum WAC requirement. DNR would directly oversee or contract for all vessel inspections. The vessel owner would reimburse DNR for associated vessel inspection costs and associated administrative expenses. DNR would evaluate the adequacy of the vessel inspection before providing the finalized vessel inspection to the owner.

The owner would provide the DNR-approved vessel inspection to the buyer, get the buyer's notarized signature acknowledging receipt, and provide the documentation to DNR. DNR would provide the owner multiple copies of an approval form: one for the owner/seller and one for the buyer to file as a required part of the vessel ownership transfer process.

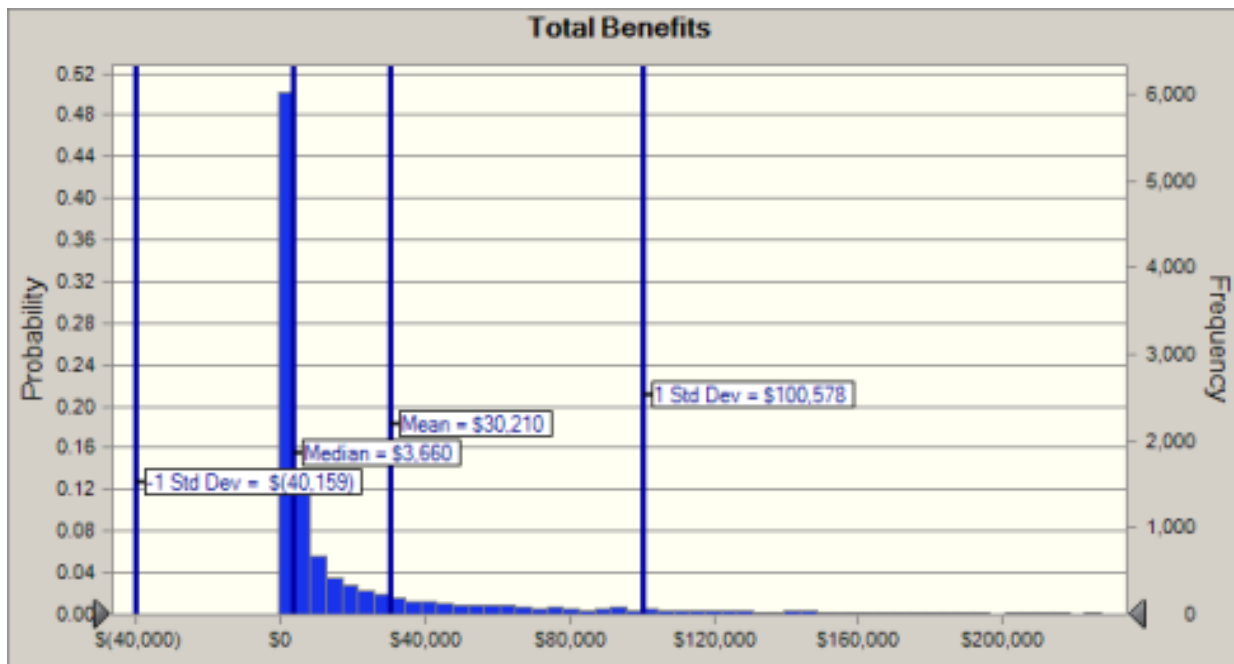
The vessel owner would be required to wait to negotiate the sale or transfer until the vessel inspection was completed and approved by DNR for meeting the minimum requirements. The cost and staffing to DNR for this alternative would be significant. This alternative may result in a more thorough vessel inspection and documentation that the buyer received the inspection report, but it would create a more expensive, time-consuming, and burdensome process for and buyers and sellers.

Appendix II: Estimated Benefits

The possible benefit of this rule would be a reduction in the total number of derelict vessels that DNR would have to remove and dispose of and a potential increase in the reimbursement rate that DNR would receive from prior owners due to their secondary liability. The benefit is calculated by looking at the difference between the base case (current condition) and the rule case (anticipated reduction with proposed rule implemented). It is difficult to estimate either the specific number of derelict vessels or the reimbursement rate to DNR because both variables will depend on a number of unknown factors.

The estimated average present value of total benefits is \$30,000 over the 10-year period modeled, with a median value of around \$4,000. Figure 2 shows the probability distribution of the benefits as calculated through the Monte Carlo simulation. The major determinant of benefits was the reimbursement rate for vessels between 101- and 200-feet long. An increase to two percent reimbursement for vessels of that size range increased the benefits from \$0 to \$96,000. This variable alone accounted for 97 percent of the variation in benefits.

Figure 2: Probability Distribution of Total Benefits



Avoided Disposal Cost of Derelict Vessels to DNR

The disposal cost of derelict vessels to DNR in the model is calculated as the product of the total number of derelict vessels times the disposal cost per vessel. The future avoided cost of derelict vessel disposal is calculated as the difference between derelict vessel disposal costs in the base case (current condition) and in the rule case (anticipated reduction with proposed rule implemented).

In the model, it is assumed that the annual number of derelict vessels depends upon the number of total vessels covered by the rule. This was estimated by dividing the number of derelict vessels, grouped by length, which DNR has removed over the life of the Program by the total number of vessels over the same time period. This calculation produces a 'dereliction rate' that is multiplied by the expected fleet size for the next ten years, taking into account known vessels that will be newly covered by the rule each year, to

provide an estimate for the number of derelict vessels that DVRP will be responsible for disposing of annually.

The modeled dereliction rate is assumed to be the same for both the base case and the rule case since there isn't a clear, specific mechanism for the rule to reduce the number of derelict vessels. Depending on DNR's review when receiving the vessel inspection reports, the Program could respond in a timely manner to a potentially derelict vessel and take preemptive administrative action to minimize the vessel disposal costs. Retrieving sunken vessels and cleaning up spilled fuels is typically the greatest expense of any disposal action. If the Program disposes of even one large vessel before it were to otherwise sink, the inspection report would have facilitated a major avoided cost. It was not possible to include this scenario in the Monte Carlo analysis for benefit and, thus, it is not reflected in Figure 2.

It should be noted that this estimate is not a true estimate of the number of derelict vessels, since the number of derelict vessels that DNR disposes of are not limited by the number of derelict vessels present and eligible for disposal, but by the Program's limited available funding. There are more derelict vessels on the 'watch list' than the Program is able to remove annually. However, this seems to be a reasonable estimate of the annual change in the number of derelict vessels, since DNR adds more vessels to the watch list as others are removed over time. Additionally, the Monte Carlo simulation varied the estimated rate of dereliction and the resulting number of derelict vessels in the model.

Reimbursement to DNR

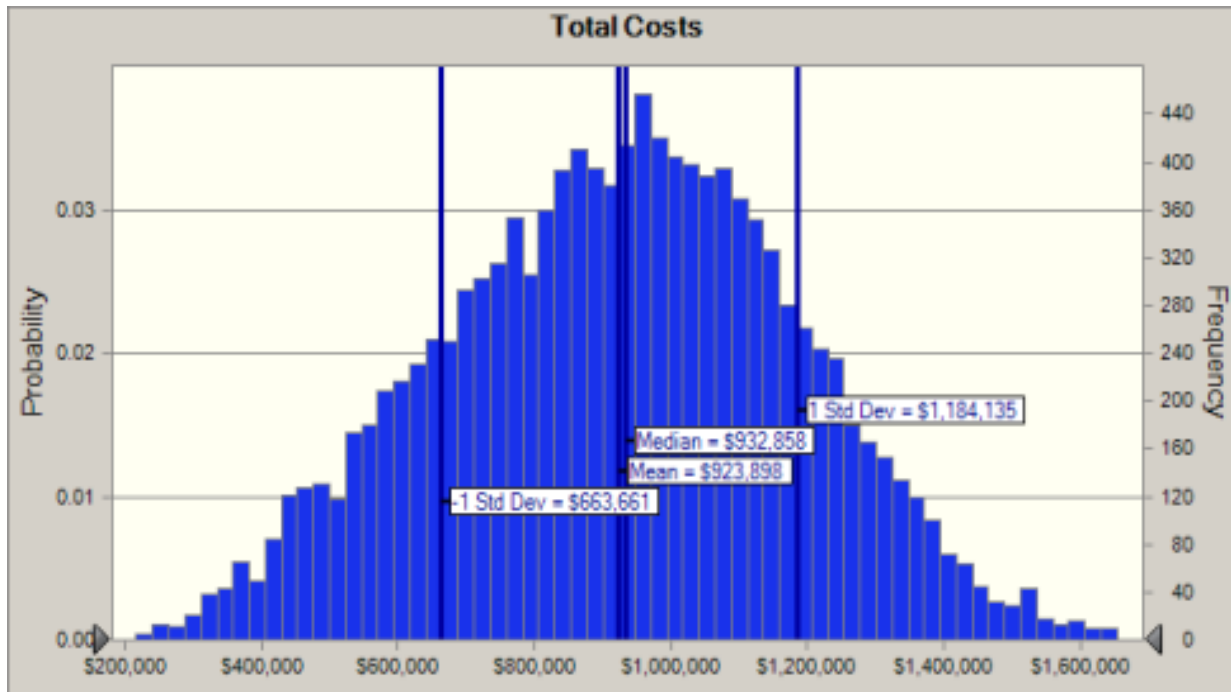
Reimbursement to DNR is modeled as a percentage of the total disposal cost of derelict vessels. The base rate is estimated from the historical reimbursement rate to DNR—which is less than one percent. A rate of one percent was used in the model, which, while inflated from past reimbursements, is a plausible number for the future since the DNR has increased the focus on cost recovery. It is possible that DVRP could achieve reimbursement rates as high as one percent in the future, even without the rule.

The rule case and the base case for this variable differ slightly. The rule case assumes an increased standard deviation—so it can vary more widely—though it has a minimum set at whatever the base case variable is for a given model run. The larger standard deviation allows for the possibility that the rule will increase the reimbursement rate to DNR even higher than one percent, though this outcome seems unlikely given the qualitative analysis of the rule described above.

Appendix III: Estimated Costs

The estimated average net present total costs (new inspections and administration) are \$924,000 for the 10-year period modeled. Figure 3 shows the probability distribution of the cost estimated by the Monte Carlo model.

Figure 3: Probability Distribution of Total Costs



Inspection Costs

In the model, the cost of inspections is dependent upon the total number of transactions, the share of those transactions that involve uninformed buyers (i.e., those inspections would not have occurred without the rule), and the inspection cost per vessel.

The total number of transactions is modeled using variable transaction rates and the number of vessels of a particular size. For instance, if ten percent of the fleet of a given length is traded every year, then the number of transactions will change depending upon the fleet size. As noted earlier, the inspection costs attributable to this rule are only those costs that would not have occurred otherwise. The total number of transactions is modified by an assumed share (percentage) of uninformed buyers, which results in the estimated number of new inspections attributable to the rule.

The cost of inspections was estimated through interviews with shipyard operators (who provide haul-out and drydock services) and marine surveyors. Inspection costs range widely, depending on a number of conditions – for instance, length, width, construction material, what type of machinery and equipment is on board, whether special testing is needed, and cleanliness of the vessel.

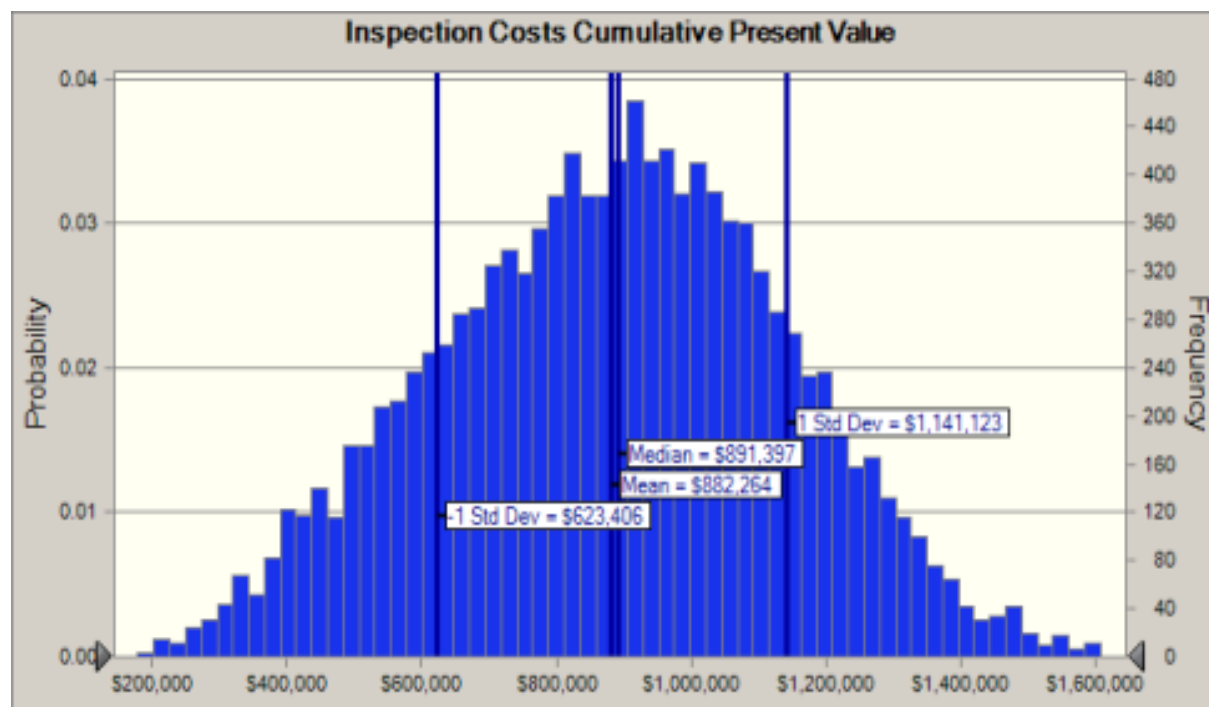
The surveyors and shipyards were able to provide us both high and low estimates of cost, which define our range, as well as the average costs. These values, plus the nature of the cost variable, allowed us to fit a normal distribution around the cost of inspections. Monte Carlo simulation is well suited to modeling this type of uncertainty. The value chosen in each Monte Carlo iteration is used as the cost of inspection

for all vessels of a given size. While this method will not be accurate for any individual vessel inspection, it is a reasonable method of choosing the average cost of inspection for vessels of a given size, because individual cost variations get smoothed out over the average.

Finally, the cost of the inspections is multiplied by the number of inspections attributable to the rule, to estimate the total vessel inspection costs. This results in no assumed inspection costs for the base case.

The mean net present inspection cost is \$882,000 for the 10- year modeled period.

Figure 4: Probability Distribution of Inspection Costs



Administration Costs

In addition to the vessel inspection costs, there are costs for DNR associated with administering the rule: receiving and archiving the paperwork, sending out receipts, and searching the records in the event of a DVRP disposal cost recovery action when the current owner can't be located or held financially responsible. These administrative costs will depend on the total number of transactions—not just the new transactions, because DNR would not keep any vessel inspection records without this rule—and the expected number of records searches per year. DNR costs per transaction were estimated, based on a Natural Resource Specialist 3 classification.

DNR cost per transaction for the record search costs were modelled using the Monte Carlo simulation to help simplify the model and because these costs are expected to be very small compared to the other costs of implementing the rule.

Sensitivity of Costs

The estimated costs in the model are mostly dependent on the rate of uninformed buyers of the largest vessels—those between 100 and 200 feet long. (See Table 1 Monte Carlo Simulated Values in the DVRP CBA.) The variable calculated in the model for 'Uninformed Buyers' ranged from a minimum of 0 percent to a maximum of 15 percent. A rate of uninformed buyers that is 5 percentage points below the

average drops the average estimated cost from \$923,000 to \$595,000. If the rate of uninformed buyers is increased by 4 percentage points, the total costs increase to \$1.2 million. Ninety-five percent of the estimated values for the uninformed buyers fall between these values. This result appears logical, considering that the inspection costs for largest vessels are much higher than the inspection costs for smaller vessels, so any change in the number of vessels inspected should have a greater effect on the overall costs.

Appendix IV: Data

1. Data Sources

- Washington Department of Licensing, 2013 Recreational vessel registration
- Washington State Legislature, 2013 Background information on Derelict Vessel Removal Program
- Washington State Department of Natural Resources, Derelict Vessel Removal Program, Historical Costs for Derelict Vessel Removals, 2004-2013

Vessels Removed w/ DVRP Funds Within Length & Age Range Covered by Rule (as of 1/28/14)

Vessel Length (feet)	Total No. of Vessels Removed	Percentage of Total Vessels	DVRP Costs	Average Cost per Vessel	% DVR Costs per Length Class
<i>Length in Rule</i>					
61' – 70' (65'+)	9	2.2%	\$425,451	\$47,272	4.47%
71' – 80'	1	0.2%	\$110,283	\$110,283	1.16%
81' – 90'	0	0.0%	\$0		0.00%
91' – 100'	2	0.5%	\$184,138	\$92,069	1.93%
101' – 200'	9	2.2%	\$7,678,793	\$853,199	80.62%
Total	21		\$8,398,665		88.18%

Source: DVRP records, as of 1/28/14 (Tammy Robbins, DVRP Program, Aquatic Resources Division, DNR)

*vessels with no recorded length were included / Table does not reflect all DVRA cost information

This table includes:

1. Vessels that are no longer active commercial vessel; meet the recreational vessel definition and should be paying but were not listed as displaying recreational license
2. Vessels that were active commercial vessels when they were seized
3. Vessels registered with a Tribe (and have WN numbers issued by a Tribe but don't pay the derelict vessel fee)
4. Vessels registered as recreational vessels that were not flagged as formerly commercial vessels.

Derelict and abandoned vessels represent a small percentage of all vessels registered or licensed in Washington State.

Total Number of Vessels in Washington State

1,812 - # commercial vessels currently registered (by Washington State Dept. of Licensing)

229,049 - # recreational vessels currently licensed (by Washington State Dept. of Licensing)

230,861 TOTAL (based on 2/14/13 data from Washington State Dept. of Licensing)

Estimated Number of State Licensed / Registered Vessels 65' to 200' in Length (All Ages of Vessel)

582 commercial vessels

391 recreational vessels

973 TOTAL (based on 2/14/13 data from Washington State Dept. of Licensing / numbers reported differ from U.S. documented vessel count)

Registered Vessels / All Ages* (Washington State Dept. of Licensing) as of February 14, 2013

Vessels by Length	Commercial	Range for Rule	Recreational*	Range for Rule
0' – 20'	18	NA	174,503	NA
21' – 30'	162	NA	40,918	NA
31' – 40'	329	NA	9,197	NA
41' – 50'	332	NA	3,310	NA
51' – 60'	159	NA	711	NA
SUBTOTAL < Rule Range	1,000	—	228,639	—
61' – 70'	102	102	226	226
71' – 80'	69	69	73	73
81' – 90'	39	39	30	30
91' – 100'	58	58	25	25
101' – 110'	57	57	11	11
111' – 120'	59	59	10	10
121' – 130'	15	15	6	6
131' – 140'	36	36	5	5
141' – 150'	33	33	5	5
151' – 160'	14	14	-	-
161' – 170'	22	22	-	-
171' – 180'	48	48	-	-
181' – 190'	9	9	-	-
191' – 200'	21	21	16 (151'-200')	16 (151'-200')
SUBTOTAL for Rule Range	582	582	391	391
201' – 210'	15	NA	-	NA
211' – 220'	10	NA	-	NA
221' – 230'	15	NA	-	NA
231' – 240'	12	NA	-	NA
241' – 250'	46	NA	9 (201'-250')	NA
251' – 260'	11	NA	-	NA
261' – 270'	13	NA	-	NA
271' – 280'	43	NA	-	NA
281' – 290'	26	NA	-	NA
291' – 300'	4	NA	5 (251'-300')	NA
301' – 310'	5	NA	5 (301' +)	NA
311' – 320'	4	NA	-	NA
321' – 340'	9	NA	-	NA
341' – 350'	3	NA	-	NA
351' – 390'	4	NA	-	NA
391' – 550'	6	NA	-	NA
SUBTOTAL > Rule Range	230	—	19	—
TOTAL	1,812 Total Commercial Vessels	582 (60'-200') / 32.1% of all Commercial	229,049 Total Recreational Vessels	391 (60'-200') / 1.7% of all Recreational

***Data Assumptions:**

1. Data as recorded by the Dept. of Licensing Production database 'buVessels'
2. Data as of February 14, 2013.
3. Only currently registered vessel (Decal 13 and 14) were included in the calculations.
4. 'Vessel length' is free form and some error may occur.
5. Vessels over 200 feet in length do not qualify for DVRP disposal funds. The number of vessels over 200 feet is included to characterize their potential risk. RCW 79.100.150 limits vessel inspection requirements to vessels 200 feet and under.

****Note:** This list includes vessels traditionally built as commercial vessels if they are no longer engaged in active commercial service.

U.S. Documented Vessels by Service Type / Eligible for Inspections (40 yr.+ 65'+) by Year /
(Vessels 201'+ not included and counted separately)

Type	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	NEWER
Commercial Fishing Vessel	224 / (23)	12 / (2)	4 / (4)	10 / (1)	40 / (1)	50 / (3)	17 / (1)	17 / (3)	11 / (3)	7	7 / (1)	54 / (4)
Fish Processing Vessel	17 / (1)	0	0	1	1	0	1 / (1)	0	0	1	1	2 / (1)
Freight Barge	147 / (57)	2 / (3)	1 / (10)	11	2 / (9)	6 / (8)	7 / (4)	4 / (12)	1 / (12)	0 / (5)	0 / (4)	14 / (31)
Freight Ship	15 / (1)	0 / (1)	1	0 / (1)	2	4	1	1	0 / (1)	1	0	4 / (4)
Industrial Vessel	37 / (10)	0	0	4	2 / (1)	0	0	2	2 / (2)	1 / (1)	0	10 / (9)
Offshore Supply Vessel	2	0	0	3	0	1	2	0	0	0	0	3
Oil Recovery	2 / (3)	0 / (1)	0 / (1)	0	0	0	0	0 / (3)	0	0 / (1)	0	1
Passenger (inspected)	27 / (15)	0	2 / (1)	0	3	2 / (1)	1 / (2)	3 / (2)	1 / (1)	1	1	33 / (7)
Passenger (uninspected)	12	0	0	0	0	0	0	2	0	0	0	4
Passenger Barge (inspected)	1	0	0	0	0	0	0	0	0	0	0	2
Recreational Vessel*	94 / (4)	2	2	2	3	1	5	1	1	4	8	136
Research Vessel	4 / (1)	0	0	0	2	1	1	0	0	0	0	0 / (2)
School Ship	4	0	0	0	0	0	0	0	0	0	0	0
Tank Barge	32 / (15)	0 / (2)	0 / (4)	1	1 / (1)	0 / (1)	4 / (8)	0 / (4)	3 / (4)	0	0	3 / (36)
Tank Ship	0 / (1)	0	0	0	0	0	0 / (1)	0	0	0	0	1
Towing Vessel	119	8	16	5	7	1	7	9	10	2	1	40
Unclassified / Unspecified / Unknown	23 / (2)	0	0	1	1	1	0	2	1	1	3	9
TOTAL	759 / (133)	+24 / (9)	+26 / (20)	+38 / (2)	+64 / (12)	+67 / (13)	+45 / (17)	+41 / (24)	+33 / (23)	+18 / (7)	+21 / (5)	+216 / (94)

(Source: BoatInfoWorld.com – an information service to reflect public record data made available and distributed by the Federal Government. The public record information includes information on vessels documented by the United States Coast Guard. The data was most recently updated on 11/25/2013.)

*Vessels longer than 200' are not covered by vessel inspection rule – numbers shown in parentheses)

Projected Cumulative Number of U.S. Documented Vessels Eligible for Inspections by Year

2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	NEWER
759	783	809	847	911	978	1,023	1,064	1,097	1,115	1,136	1,352

Projected Number of Commercial Fishing Vessels Eligible for Inspections by Year

Commercial Fishing	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	NEWER
Length / 65' – 70'	33	4	1	2	3	2	1	0	0	1	1	3
71' – 80'	58	1	2	-	2	5	2	1	1	-	-	16
81' – 90'	23	3	1	-	9	10	3	3	2	-	1	10
91' – 100'	19	2	-	4	7	5	3	2	2	1	1	3
101' – 110'	23	-	-	3	5	14	5	2	-	-	-	3
111' – 120'	14	-	-	-	5	5	1	3	-	3	1	9
121' – 130'	12	-	-	-	-	2	1	-	-	-	-	4
131' – 140'	4	1	-	-	3	2	-	-	-	-	2	3
141' – 150'	6	-	-	-	1	3	-	1	2	1	-	-
151' – 200'	32	1	-	1	5	2	1	5	4	1	1	3
*201' – 250'	(6)	(2)	(3)	-	-	(2)	(1)	(1)	(3)	-	(1)	(4)
*251' – 300'	(7)	-	(1)	(1)	(1)	(1)	-	-	-	-	-	-
*301' & over	(10)	-	-	-	-	-	-	(2)	-	-	-	-
TOTAL	224 / (23)	12 / (2)	4 / (4)	10 / (1)	40 / (1)	50 / (3)	17 / (1)	17 / (3)	11 / (3)	7 / (-)	7 / (1)	54 / (4)

(Source: BoatInfoWorld.com/ 11/25/2013) *Vessels longer than 200' are not covered by vessel inspection rule.

Projected Number of Fish Processing Vessels Eligible for Inspections by Year

Fish Processing	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	NEWER
Length / 65' – 70'	1	-	-	-	-	-	-	-	-	-	-	1
71' – 80'	4	-	-	-	-	-	-	-	-	-	-	1
81' – 90'	3	-	-	-	1	-	1	-	-	-	-	-
91' – 100'	2	-	-	-	-	-	-	-	-	-	-	-
101' – 110'	-	-	-	1	-	-	-	-	-	-	1	-
111' – 120'	-	-	-	-	-	-	-	-	-	-	-	-
121' – 130'	-	-	-	-	-	-	-	-	-	-	-	-
131' – 140'	1	-	-	-	-	-	-	-	-	-	-	-
141' – 150'	-	-	-	-	-	-	-	-	-	-	-	-
151' – 200'	6	-	-	-	-	-	-	-	-	1	-	-
*201' – 250'	(1)	-	-	-	-	-	-	-	-	-	-	-
*251' – 300'	-	-	-	-	-	-	(1)	-	-	-	-	-
*301' & over	-	-	-	-	-	-	-	-	-	-	-	(1)
TOTAL	17 / (1)	0	0	1	1	0	1 / (1)	0	0	1	1	2 / (1)

(Source: BoatInfoWorld.com / 11/25/2013) *Vessels longer than 200' are not covered by vessel inspection rule.

Projected Number of Freight Barges Eligible for Inspections by Year

Freight Barge	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	NEWER
Length / 65' – 70'	3	-	-	-	-	-	-	-	-	-	-	-
71' – 80'	9	-	-	-	-	-	-	-	-	-	-	1
81' – 90'	5	-	-	-	-	-	-	-	-	-	-	1
91' – 100'	2	-	-	-	-	-	-	-	-	-	-	-
101' – 110'	38	-	-	-	-	-	1	-	-	-	-	-
111' – 120'	4	-	-	-	-	-	-	-	-	-	-	2
121' – 130'	5	-	1	-	-	-	-	-	-	-	-	1
131' – 140'	4	-	-	1	-	-	-	-	-	-	-	-
141' – 150'	20	-	-	-	-	-	-	-	-	-	-	2
151' – 200'	57	2	-	1	2	6	6	4	1	-	-	7
*201' – 250'	(33)	-	(7)	(5)	(7)	(4)	(1)	(4)	(4)	(3)	(1)	(7)
*251' – 300'	(12)	(2)	-	(3)	(2)	(2)	(3)	(6)	(6)	-	(2)	(15)
*301' & over	(12)	(1)	(3)	(1)	-	(2)	-	(2)	(2)	(2)	(1)	(9)
TOTAL	147 / (57)	2 / (3)	1 / (10)	2 / (9)	2 / (9)	6 / (8)	7 / (4)	4 / (12)	1 / (12)	0 / (5)	0 / (4)	14 / (31)

(Source: BoatInfoWorld.com / 11/25/2013) *Vessels longer than 200' are not covered by vessel inspection rule.

Projected Number of Freight Ships Eligible for Inspections by Year

Freight Ship	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	NEWER
Length / 65' – 70'	1	-	1	-	1	1	-	-	-	-	-	-
71' – 80'	7	-	-	-	-	-	-	-	-	-	-	2
81' – 90'	1	-	-	-	1	2	-	-	-	-	-	-
91' – 100'	-	-	-	-	-	-	-	-	-	-	-	-
101' – 110'	-	-	-	-	-	-	-	-	-	-	-	-
111' – 120'	1	-	-	-	-	-	-	-	-	-	-	-
121' – 130'	-	-	-	-	-	-	-	-	-	-	-	-
131' – 140'	-	-	-	-	-	1	-	-	-	1	-	-
141' – 150'	-	-	-	-	-	-	-	1	-	-	-	1
151' – 200'	5	-	-	-	-	-	1	-	-	-	-	1
*201' – 250'	-	-	-	-	-	-	-	-	-	-	-	(1)
*251' – 300'	-	-	-	-	-	-	-	-	-	-	-	(1)
*301' & over	(1)	(1)	-	(1)	-	-	-	-	(1)	-	-	(2)
TOTAL	15 / (1)	0 / (1)	1	0 / (1)	2	4	1	1	0 / (1)	1	0	4 / (4)

(Source: BoatInfoWorld.com / 11/25/2013) *Vessels longer than 200' are not covered by vessel inspection rule.

Projected Number of Industrial Vessels Eligible for Inspections by Year

Industrial Vessel	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	NEWER
Length / 65' – 70'	1	-	-	2	-	-	-	-	-	-	-	-
71' – 80'	2	-	-	-	-	-	-	1	-	-	-	3
81' – 90'	-	-	-	-	-	-	-	-	-	-	-	-
91' – 100'	-	-	-	1	-	-	-	-	-	-	-	-
101' – 110'	7	-	-	-	-	-	-	-	-	-	-	-
111' – 120'	8	-	-	-	-	-	-	-	-	-	-	2
121' – 130'	-	-	-	-	-	-	-	-	1	-	-	-
131' – 140'	6	-	-	-	-	-	-	-	-	-	-	1
141' – 150'	6	-	-	-	-	-	-	-	-	-	-	1
151' – 200'	7	-	-	1	2	-	-	1	1	1	-	3
*201' – 250'	(2)	-	-	-	-	-	-	-	(1)	-	-	(5)
*251' – 300'	(2)	-	-	-	(1)	-	-	-	(1)	(1)	-	(2)
*301' & over	(6)	-	-	-	-	-	-	-	-	-	-	(2)
TOTAL	37 / (10)	0	0	4	2 / (1)	0	0	2	2 / (2)	1 / (1)	0	10 / (9)

(Source: BoatInfoWorld.com / 11/25/2013) *Vessels longer than 200' are not covered by vessel inspection rule.

Projected Number of Offshore Supply Vessels Eligible for Inspections by Year

Offshore Supply	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	NEWER
Length / 65' – 70'	-	-	-	-	-	-	-	-	-	-	-	-
71' – 80'	1	-	-	-	-	-	-	-	-	-	-	-
81' – 90'	-	-	-	-	-	-	-	-	-	-	-	-
91' – 100'	-	-	-	-	-	-	-	-	-	-	-	-
101' – 110'	-	-	-	-	-	1	-	-	-	-	-	-
111' – 120'	-	-	-	-	-	-	-	-	-	-	-	1
121' – 130'	-	-	-	-	-	-	-	-	-	-	-	1
131' – 140'	-	-	-	-	-	-	1	-	-	-	-	-
141' – 150'	-	-	-	-	-	-	-	-	-	-	-	-
151' – 200'	1	-	-	3	-	-	1	-	-	-	-	1
*201' – 250'	-	-	-	-	-	-	-	-	-	-	-	-
*251' – 300'	-	-	-	-	-	-	-	-	-	-	-	-
*301' & over	-	-	-	-	-	-	-	-	-	-	-	-
TOTAL	2	0	0	3	0	1	2	0	0	0	0	3

(Source: BoatInfoWorld.com / 11/25/2013) *Vessels longer than 200' are not covered by vessel inspection rule.

Projected Number of Oil Recovery Vessels Eligible for Inspections by Year

Oil Recovery	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	NEWER
Length / 65' – 70'	-	-	-	-	-	-	-	-	-	-	-	1
71' – 80'	-	-	-	-	-	-	-	-	-	-	-	-
81' – 90'	-	-	-	-	-	-	-	-	-	-	-	-
91' – 100'	-	-	-	-	-	-	-	-	-	-	-	-
101' – 110'	-	-	-	-	-	-	-	-	-	-	-	-
111' – 120'	-	-	-	-	-	-	-	-	-	-	-	-
121' – 130'	-	-	-	-	-	-	-	-	-	-	-	-
131' – 140'	-	-	-	-	-	-	-	-	-	-	-	-
141' – 150'	-	-	-	-	-	-	-	-	-	-	-	-
151' – 200'	2	-	-	-	-	-	-	-	-	-	-	-
*201' – 250'	(1)	-	-	-	-	-	-	-	-	-	-	-
*251' – 300'	(1)	-	-	-	-	-	-	-	-	-	-	-
*301' & over	(1)	(1)	(1)	-	-	-	-	(3)	-	(1)	-	-
TOTAL	2 / (3)	0 / (1)	0 / (1)	0	0	0	0	0 / (3)	0	0 / (1)	0	1

(Source: BoatInfoWorld.com / 11/25/2013) *Vessels longer than 200' are not covered by vessel inspection rule.

Projected Number of Inspected Passenger Vessels Eligible for Inspections by Year

Passenger (Inspected)	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	NEWER
Length / 65' – 70'	6	-	-	-	-	-	-	-	-	-	-	4
71' – 80'	6	-	1	-	1	-	-	-	-	-	-	11
81' – 90'	3	-	-	-	-	-	-	-	-	-	-	5
91' – 100'	5	-	1	-	1	1	1	2	-	1	-	3
101' – 110'	2	-	-	-	-	-	-	-	-	-	-	3
111' – 120'	-	-	-	-	1	-	-	-	-	-	1	1
121' – 130'	1	-	-	-	-	1	-	-	-	-	-	2
131' – 140'	1	-	-	-	-	-	-	1	1	-	-	-
141' – 150'	1	-	-	-	-	-	-	-	-	-	-	1
151' – 200'	2	-	-	-	-	-	-	-	-	-	-	3
*201' – 250'	(5)	-	-	-	-	-	-	-	-	-	-	(1)
*251' – 300'	(3)	-	-	-	-	-	-	-	-	-	-	(3)
*301' & over	(7)	-	(1)	-	-	(1)	(2)	(2)	(1)	-	-	(3)
TOTAL	27 / (15)	0	2 / (1)	0	3	2 / (1)	1 / (2)	3 / (2)	1 / (1)	1	1	33 / (7)

(Source: BoatInfoWorld.com / 11/25/2013) *Vessels longer than 200' are not covered by vessel inspection rule.

Projected Number of Uninspected Passenger Vessels Eligible for Inspections by Year

Passenger (uninspected)	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	NEWER
Length / 65' – 70'	2	-	-	-	-	-	-	-	-	-	-	3
71' – 80'	1	-	-	-	-	-	-	1	-	-	-	1
81' – 90'	4	-	-	-	-	-	-	-	-	-	-	-
91' – 100'	1	-	-	-	-	-	-	1	-	-	-	-
101' – 110'	-	-	-	-	-	-	-	-	-	-	-	-
111' – 120'	1	-	-	-	-	-	-	-	-	-	-	-
121' – 130'	-	-	-	-	-	-	-	-	-	-	-	-
131' – 140'	1	-	-	-	-	-	-	-	-	-	-	-
141' – 150'	1	-	-	-	-	-	-	-	-	-	-	-
151' – 200'	1	-	-	-	-	-	-	-	-	-	-	-
*201' – 250'	-	-	-	-	-	-	-	-	-	-	-	-
*251' – 300'	-	-	-	-	-	-	-	-	-	-	-	-
*301' & over	-	-	-	-	-	-	-	-	-	-	-	-
TOTAL	12	0	0	0	0	0	0	2	0	0	0	4

(Source: BoatInfoWorld.com / 11/25/2013) *Vessels longer than 200' are not covered by vessel inspection rule.

Projected Number of Passenger Barges Eligible for Inspections by Year

Passenger Barge (Inspected)	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	NEWER
Length / 65' – 70'	-	-	-	-	-	-	-	-	-	-	-	-
71' – 80'	-	-	-	-	-	-	-	-	-	-	-	-
81' – 90'	1	-	-	-	-	-	-	-	-	-	-	-
91' – 100'	-	-	-	-	-	-	-	-	-	-	-	-
101' – 110'	-	-	-	-	-	-	-	-	-	-	-	-
111' – 120'	-	-	-	-	-	-	-	-	-	-	-	2
121' – 130'	-	-	-	-	-	-	-	-	-	-	-	-
131' – 140'	-	-	-	-	-	-	-	-	-	-	-	-
141' – 150'	-	-	-	-	-	-	-	-	-	-	-	-
151' – 200'	-	-	-	-	-	-	-	-	-	-	-	-
*201' – 250'	-	-	-	-	-	-	-	-	-	-	-	-
*251' – 300'	-	-	-	-	-	-	-	-	-	-	-	-
*301' & over	-	-	-	-	-	-	-	-	-	-	-	-
TOTAL	1	0	0	0	0	0	0	0	0	0	0	2

(Source: BoatInfoWorld.com / 11/25/2013) *Vessels longer than 200' are not covered by vessel inspection rule.

Projected Number of Recreational Vessels Eligible for Inspections by Year

Recreational Vessel	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	NEWER
Length / 65' – 70'	27	1	1	-	-	1	2	-	1	1	6	65
71' – 80'	41	1	-	1	-	-	3	1	-	1	1	50
81' – 90'	12	-	-	1	2	-	-	-	-	1	1	9
91' – 100'	5	-	-	-	-	-	-	-	-	-	-	4
101' – 110'	6	-	-	-	1	-	-	-	-	-	-	4
111' – 120'	1	-	1	-	-	-	-	-	-	-	-	2
121' – 130'	-	-	-	-	-	-	-	-	-	1	-	1
131' – 140'	2	-	-	-	-	-	-	-	-	-	-	1
141' – 150'	-	-	-	-	-	-	-	-	-	-	-	-
151' – 200'	1	-	-	-	-	-	-	-	-	-	-	-
*201' – 250'	(2)	-	-	-	-	-	-	-	-	-	-	-
*251' – 300'	(2)	-	-	-	-	-	-	-	-	-	-	-
*301' & over	-	-	-	-	-	-	-	-	-	-	-	-
TOTAL	94 / (4)	2	2	2	3	1	5	1	1	4	8	136

(Source: BoatInfoWorld.com / 11/25/2013) *Vessels longer than 200' are not covered by vessel inspection rule.

Projected Number of Research Vessels Eligible for Inspections by Year

Research Vessel	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	NEWER
Length / 65' – 70'	-	-	-	-	-	-	-	-	-	-	-	-
71' – 80'	-	-	-	-	-	-	-	-	-	-	-	-
81' – 90'	-	-	-	-	-	-	1	-	-	-	-	-
91' – 100'	1	-	-	-	1	-	-	-	-	-	-	-
101' – 110'	-	-	-	-	-	-	-	-	-	-	-	-
111' – 120'	-	-	-	-	-	-	-	-	-	-	-	-
121' – 130'	-	-	-	-	-	-	-	-	-	-	-	-
131' – 140'	-	-	-	-	-	-	-	-	-	-	-	-
141' – 150'	-	-	-	-	-	-	-	-	-	-	-	-
151' – 200'	3	-	-	-	1	1	-	-	-	-	-	-
*201' – 250'	(1)	-	-	-	-	-	-	-	-	-	-	(1)
*251' – 300'	-	-	-	-	-	-	-	-	-	-	-	(1)
*301' & over	-	-	-	-	-	-	-	-	-	-	-	-
TOTAL	4 / (1)	0	0	0	2	1	1	0	0	0	0	0 / (2)

(Source: BoatInfoWorld.com / 11/25/2013) *Vessels longer than 200' are not covered by vessel inspection rule.

Projected Number of School Ships Eligible for Inspections by Year

School Ship	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	NEWER
Length / 65' – 70'	-	-	-	-	-	-	-	-	-	-	-	-
71' – 80'	1	-	-	-	-	-	-	-	-	-	-	-
81' – 90'	1	-	-	-	-	-	-	-	-	-	-	-
91' – 100'	1	-	-	-	-	-	-	-	-	-	-	-
101' – 110'	-	-	-	-	-	-	-	-	-	-	-	-
111' – 120'	-	-	-	-	-	-	-	-	-	-	-	-
121' – 130'	-	-	-	-	-	-	-	-	-	-	-	-
131' – 140'	-	-	-	-	-	-	-	-	-	-	-	-
141' – 150'	-	-	-	-	-	-	-	-	-	-	-	-
151' – 200'	1	-	-	-	-	-	-	-	-	-	-	-
*201' – 250'	-	-	-	-	-	-	-	-	-	-	-	-
*251' – 300'	-	-	-	-	-	-	-	-	-	-	-	-
*301' & over	-	-	-	-	-	-	-	-	-	-	-	-
TOTAL	4	0	0	0	0	0	0	0	0	0	0	0

(Source: BoatInfoWorld.com / 11/25/2013) *Vessels longer than 200' are not covered by vessel inspection rule.

Projected Number of Tank Barges Eligible for Inspections by Year

Tank Barge	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	NEWER
Length / 65' – 70'	1	-	-	-	-	-	-	-	-	-	-	-
71' – 80'	5	-	-	-	-	-	-	-	1	-	-	-
81' – 90'	1	-	-	-	-	-	-	-	-	-	-	-
91' – 100'	2	-	-	-	-	-	-	-	1	-	-	1
101' – 110'	1	-	-	-	-	-	-	-	-	-	-	1
111' – 120'	2	-	-	-	-	-	2	-	-	-	-	1
121' – 130'	1	-	-	-	-	-	-	-	-	-	-	-
131' – 140'	0	-	-	-	-	-	-	-	1	-	-	-
141' – 150'	5	-	-	-	-	-	2	-	-	-	-	-
151' – 200'	14	-	-	1	1	-	-	-	-	-	-	-
*201' – 250'	(9)	(2)	(2)	-	-	-	(3)	(1)	(1)	-	-	(11)
*251' – 300'	(6)	-	(1)	-	(1)	(1)	(5)	(1)	(2)	-	-	(22)
*301' & over	-	-	(1)	-	-	-	-	(2)	(1)	-	-	(3)
TOTAL	32 / (15)	0 / (2)	0 / (4)	1	1 / (1)	0 / (1)	4 / (8)	0 / (4)	3 / (4)	0	0	3 / (36)

(Source: BoatInfoWorld.com / 11/25/2013) *Vessels longer than 200' are not covered by vessel inspection rule.

Projected Number of Tank Ships Eligible for Inspections by Year

Tank Ship	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	NEWER
Length / 65' – 70'	-	-	-	-	-	-	-	-	-	-	-	-
71' – 80'	-	-	-	-	-	-	-	-	-	-	-	1
81' – 90'	-	-	-	-	-	-	-	-	-	-	-	-
91' – 100'	-	-	-	-	-	-	-	-	-	-	-	-
101' – 110'	-	-	-	-	-	-	-	-	-	-	-	-
111' – 120'	-	-	-	-	-	-	-	-	-	-	-	-
121' – 130'	-	-	-	-	-	-	-	-	-	-	-	-
131' – 140'	-	-	-	-	-	-	-	-	-	-	-	-
141' – 150'	-	-	-	-	-	-	-	-	-	-	-	-
151' – 200'	-	-	-	-	-	-	-	-	-	-	-	-
*201' – 250'	-	-	-	-	-	-	-	-	-	-	-	-
*251' – 300'	-	-	-	-	-	-	(1)	-	-	-	-	-
*301' & over	(1)	-	-	-	-	-	-	-	-	-	-	-
TOTAL	0 / (1)	0	0	0	0	0	0 / (1)	0	0	0	0	1

(Source: BoatInfoWorld.com / 11/25/2013) *Vessels longer than 200' are not covered by vessel inspection rule.

Projected Number of Towing Vessels Eligible for Inspections by Year

Towing Vessel	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	NEWER
Length / 65' – 70'	21	-	-	-	-	1	-	3	-	-	-	2
71' – 80'	22	-	-	-	3	-	7	5	1	-	-	10
81' – 90'	11	1	-	1	-	-	-	-	3	1	1	5
91' – 100'	27	3	3	2	1	-	-	-	5	1	-	8
101' – 110'	14	1	2	-	-	-	-	-	1	-	-	2
111' – 120'	14	-	3	1	-	-	-	1	-	-	-	6
121' – 130'	6	3	7	1	1	-	-	-	-	-	-	3
131' – 140'	4	-	-	-	1	-	-	-	-	-	-	2
141' – 150'	-	-	1	-	-	-	-	-	-	-	-	2
151' – 200'	-	-	-	-	1	-	-	-	-	-	-	-
*201' – 250'	-	-	-	-	-	-	-	-	-	-	-	-
*251' – 300'	-	-	-	-	-	-	-	-	-	-	-	-
*301' & over	-	-	-	-	-	-	-	-	-	-	-	-
TOTAL	119	8	16	5	7	1	7	9	10	2	1	40

(Source: BoatInfoWorld.com / 11/25/2013) *Vessels longer than 200' are not covered by vessel inspection rule.

Projected Number of Unclassified Vessels Eligible for Inspections by Year

Unclassified	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	NEWER
Length / 65' – 70'	4	-	-	1	-	-	-	-	1	-	-	3
71' – 80'	5	-	-	-	-	-	-	1	-	-	1	4
81' – 90'	0	-	-	-	-	-	-	-	-	-	-	1
91' – 100'	5	-	-	-	-	-	-	1	-	-	1	-
101' – 110'	1	-	-	-	-	-	-	-	-	-	-	-
111' – 120'	2	-	-	-	-	-	-	-	-	1	-	-
121' – 130'	0	-	-	-	-	-	-	-	-	-	-	-
131' – 140'	1	-	-	-	-	-	-	-	-	-	-	1
141' – 150'	1	-	-	-	-	-	-	-	-	-	-	-
151' – 200'	4	-	-	-	1	1	-	-	-	-	1	-
*201' – 250'	(1)	-	-	-	-	-	-	-	-	-	-	-
*251' – 300'	(1)	-	-	-	-	-	-	-	-	-	-	-
*301' & over	-	-	-	-	-	-	-	-	-	-	-	-
TOTAL	23 / (2)	0	0	1	1	1	0	2	1	1	3	9

(Source: BoatInfoWorld.com / 11/25/2013) *Vessels longer than 200' are not covered by vessel inspection rule.